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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/554,843

05/19/2000

PIERRE NICAISE

35615.180

3718

7590

07/29/2004

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EXAMINER

KNEPPER, DAVID D

ART UNIT

PAPER NUMBER

2654

11

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/554,843

Applicant(s)

NICAISE, PIERRE

Examiner

David D. Knepper

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. Applicant's correspondence filed on 2 June 2004 (Extension of Time and Response, paper #69-10) has been received and considered. Claims 1-9, 11 and 12 are pending. Claim 10 has been canceled.

### **Title**

2. The title is objected to because it fails to give a meaningful description of the coding process.

### **Specification**

3. The objection is overcome since the applicant agrees that the use of "terminal" only refers to admitted prior art.

### **Claims**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-9 are rejected under 35 U.S.C. § 103 as being unpatentable over Gersho in view

of Lozach (5,583,963).

As per claims 1 and 8 Gersho teaches “a sequence of acoustic units” with code vectors of his two-stage VQ (see page 452):

“units compared with library references” (his random vector X is quantized by  $Q_1$ , pages 451-452);

“differences between the units and the references are determined” (his differences shown in successive stages, figures 12.19 and 12.20);

“differences are encoded by secondary code words” (his figures 12.19 and 12.20 show that a successive difference is encoded by a secondary quantizer and the pair (fig. 12.19) of resulting codes are used to represent the coded input).

It is noted that the prior art does not use the term “acoustic units”. However, it is clear that the input vector X may represent speech (see pages 455-457 showing performance for speech examples) used in multistage VQ coding. Lozach shows a particular application of speech coding utilizing multistage vector quantization (see figures 10a and 10b). Therefore, it would have been obvious to one of ordinary skill in the art that the vector quantization of Gersho could apply to acoustic units representing speech.

Claims 2, 3: “Spectra of lines of frequencies, weighting coefficients normed with respect to the energy and integrated into the secondary code word” is taught by Gersho as standard tools used by those designing vector quantizers. See his weighting and norm calculations on pages 326 and 327 where he discusses commonly known distortion measures. See also page 509 where he teaches that line spectral frequencies (LSF - also known as line spectral pairs LSP) are common design choices among well known types of LPC parameters.

Claim 4: Coding amplitude extremes is taught by Gersho's high gain vectors, page 639.

Claim 5: Limiting the calculations of difference to a single average spectrum is considered obvious in view of Gersho's frame sample mean or average norm, page 639, bottom.

Claim 6: Limiting the frequency to 3 bands is obvious in view of Gersho's example of splitting vectors to represent the first 4 components, page 509. One of ordinary skill in the art knows that vowel sounds may be recognized using as few as 3 formant frequencies.

Claim 7: The use of a single coefficient for each band is typical for LPC which typically employ the transmission of a vector of LPC parameters, page 509.

Claim 9 is obvious as the method for selecting and combining the coded elements for decoding (see Gersho, page 453, figure 12.21).

#### **Remarks**

6. The applicant's arguments regarding the application of the prior art is convincing but is moot in view of the new application of art which relies on the common implementation of Multistage Vector Quantization which clearly codes the differences between units and references input from stage to stage.

7. Claims 11 and 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Gersho and Lozach further in view of Zehavi (5,581,575).

It is noted that Gersho and Lozach do not teach the combination including facsimile. However, Lozach suggests it in figure 2 with his auxiliary data input, Data Insertion System 19.

Zehavi explicitly teaches the use of facsimile in column 5, line 28-29, 50-51 where he teaches that the combination is possible with any data transmitter.

**8. Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**or faxed to:**

TC2600 Fax Center  
(703) 872-9314

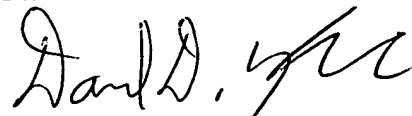
Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Knepper whose telephone number is (703) 305-9644. The examiner can normally be reached on Monday-Thursday from 07:30 a.m.-6:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richemond Dorvil, can be reached on (703) 305-9645.

Any inquiry of a general nature or relating to the status of this application should be directed to customer service at (703) 306-0377.

The facsimile number for TC 2600 is (703) 872-9314.



David D. Knepper  
Primary Examiner  
Art Unit 2654